

Rejection under 35 U.S.C. §112, second paragraph

Claims 1-14 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

As amended, Claim 1 sets forth "said stopper positioned in one location within a range of possible locations on said shaft...said one location being a function of the height of said magnet." This feature discloses the stopper positioned in one location on the shaft. Furthermore, the location is within a range of possible locations on the stopper and is a function of the height of the magnet, such as the length H of the magnet 5 disclosed in Fig. 4B of the present application. This indicates that the location of the stopper can be changed. As this feature is definitely set forth, Applicant requests that the rejection under 35 U.S.C. 112 be removed.

Rejection under 35 U.S.C. §102(b)

Claims 1-5, 7, 8 and 10-14 are rejected under 35 U.S.C. §102(b) as being anticipated by Hishida et al. Applicant overcomes the rejection as follows.

The Examiner asserts that the stopper of the present invention is allegedly equivalent to sleeve member 318 disclosed in the Hishida patent. Applicant submits that sleeve member 318 is used for supporting a bearing unit 316 (col. 9, lines 16-20). In addition, Hishida does not teach or suggest that the location of sleeve member 318 being positionable "in one location within a range of possible locations on said shaft." Accordingly, the sleeve member 318 of Hishida does not teach or suggest the stopper set forth in Claim 1.

Instead, the stopper set forth in Claim 1 is positioned in one location within a range of possible locations on the shaft 14 to maintain a relatively low rotational inertia for fixing and supporting the other end of the shaft 14. The stopper could be repeatedly utilized without changing the size thereof. Therefore, the motor structure and the given function of the Hishida patent are irrelevant to those of the present application. Accordingly Claim 1 is allowable over the Hishida reference.

Claims 10 and 11 have similar features to Claim 1 and are therefore allowable for at least the same reasons as Claim 1.

Claims 2, 3, 4, 6-9 and 12 depend from Claim 1 and are therefore allowable for at least the same reasons as Claim 1. Claim 13 depends from Claim 10 and is therefore allowable for at least the same reasons as Claim 10. Claim 14 depends from Claim 11 and is therefore allowable for at least the same reasons as Claim 11.

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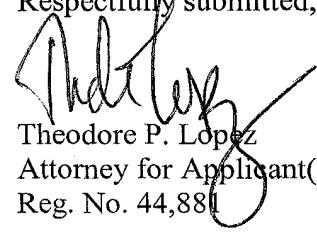
CONCLUSION

For the above reasons, pending Claims 1-4 and 6-14 are now in condition for allowance and allowance of the application is hereby solicited. If the Examiner has any questions or concerns, the Examiner is hereby requested to telephone Applicant's Attorney at (949) 718-5200.

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Respectfully submitted,


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ATTACHMENT A

Marked-Up Version of Amended Claims

1. (Twice Amended) A rotor structure of a stepping motor, comprising:
a magnet having a first annular wall;
a magnet holder having a base and a second annular wall connected with said first annular wall of said magnet for fixing said magnet;
a shaft having one end mounted through said base of said magnet holder; and
a stopper for supporting and fixing [fixed on] the other end of said shaft, said stopper positioned in one location within a range of possible locations on said shaft to maintain a relatively low rotational inertia, said one location being a function of the height of said magnet.

8. (Twice Amended) The rotor structure according to claim 7, wherein said bush is connected to said shaft by using an interference [assembly] fit.

10. (Twice Amended) A stepping motor structure, comprising:
a rotor; and
a stator having a plurality of coils for causing the rotation of said rotor, wherein said rotor comprises:
a magnet having a first annular wall;
a magnet holder having a base and a second annular wall connected with said first annular wall of said magnet for fixing said magnet;
a shaft having one end mounted through said base of said magnet holder; and
a stopper for supporting and fixing [fixed on] the other end of said shaft, said stopper positioned in one location within a range of possible locations on said shaft to maintain a relatively low rotational inertia, said one location being a function of the height of said magnet.

11. (Twice Amended) A rotor-stator assembly of a stepping motor having a relatively low inertia, comprising:
a rotor; and
a stator having a plurality of coils for causing the rotation of said rotor, wherein said rotor comprises:

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a magnet having a first annular wall;
a magnet holder having a base and a second annular wall connected with said first annular wall of said magnet for fixing said magnet;
a shaft having one end mounted through said base of said magnet holder; and
a stopper for supporting and fixing [fixed on] the other end of said shaft, said stopper positioned in one location within a range of possible locations on said shaft to maintain a relatively low rotational inertia, said one location being a function of the height of said magnet.

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